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pressure on viral evolution. These data have important implications for natural history and vaccine development.

In The Claims:

After canceling Claims 2-37 as directed in the accompanying Preliminary Amendment, please add new Claims 38-51:

38. (New) A method for detecting within a patient infected by HIV the development of an antibody response capable of blocking infection comprising:

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- (a) transfecting into a first cell
 - i) a nucleic acid encoding a viral envelope protein from the patient, and
 - ii) a viral expression vector which lacks a nucleic acid encoding an envelope protein, and which comprises an indicator nucleic acid which produces a detectable signal,such that the first cell produces viral particles comprising the envelope protein encoded by the nucleic acid obtained from the patient;
 - (b) contacting the viral particles produced in step (a) with an antibody preparation from the patient;
 - (c) contacting the viral particles and antibody preparation of step (b) with a second cell, wherein the second cell expresses a cell surface receptor to which the virus binds;
 - (d) measuring the amount of the detectable signal produced by the second cell in order to determine the infectivity of the viral particles; and
 - (e) comparing the amount of signal measured in step (d) with the amount of signal produced in the absence of the antibody preparation, wherein a reduced amount of signal measured in the presence of the antibody preparation indicates that the patient has developed an antibody response to the viral envelope protein capable of blocking infection.

39. (New) A method for detecting within a patient infected by a virus the development of an antibody response capable of blocking infection comprising:

- (a) transfecting into a first cell

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- i) a nucleic acid encoding a viral protein from the patient, and
 - ii) a viral expression vector which lacks a nucleic acid encoding the viral protein, and which comprises an indicator nucleic acid which produces a detectable signal,

such that the first cell produces viral particles comprising the viral protein encoded by the nucleic acid obtained from the patient;

- (b) contacting the viral particles produced in step (a) with an antibody preparation from the patient;
- (c) contacting the viral particles and antibody preparation of step (b) with a second cell, wherein the second cell expresses a cell surface receptor to which the virus binds;
- (d) measuring the amount of the detectable signal produced by the second cell in order to determine the infectivity of the viral particles; and
- (e) comparing the amount of signal measured in step (d) with the amount of signal produced in the absence of the antibody preparation, wherein a reduced amount of signal measured in the presence of the antibody preparation indicates that the patient has developed an antibody response to the viral protein capable of blocking infection.

40. (New) The method of Claim 39 wherein the viral protein is a capsid protein.

41. (New) A method for detecting within a patient infected by HIV the development of an antibody response capable of blocking infection comprising:

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- (a) incubating a first cell comprising
 - (i) a nucleic acid encoding a viral envelope protein from the patient, and
 - (ii) a viral expression vector which lacks a nucleic acid encoding an envelope protein, and which comprises an indicator nucleic acid which produces a detectable signal,

such that the first cell produces viral particles comprising the envelope protein encoded by the nucleic acid obtained from the patient;

- (b) contacting the viral particles produced in step (a) with an antibody preparation from the patient;

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42. (New) The method of Claim 41 wherein the nucleic acid of (i) is part of the viral expression vector of (ii).
43. (New) The method of Claim 41 wherein the nucleic acid of (i) is integrated into the genome of the first cell.
44. (New) The method of Claim 41 wherein the viral vector of (ii) is integrated into the genome of the first cell.
45. (New) The method of Claim 41 wherein the nucleic acid of (i) and the viral vector of (ii) are integrated into the genome of the first cell.
46. (New) A method for detecting within a patient infected by a virus the development of an antibody response capable of blocking infection comprising:
- (a) incubating a first cell comprising
- (i) a nucleic acid encoding a viral protein from the patient, and
- (ii) a viral expression vector which lacks a nucleic acid encoding the viral protein, and which comprises an indicator nucleic acid which produces a detectable signal,
- such that the first cell produces viral particles comprising the viral protein encoded by the nucleic acid obtained from the patient;
- (c) contacting the viral particles and antibody preparation of step (b) with a second cell, wherein the second cell expresses a cell surface receptor to which the virus binds;
- (d) measuring the amount of the detectable signal produced by the second cell in order to determine the infectivity of the viral particles; and
- (e) comparing the amount of signal measured in step (d) with the amount of signal produced in the absence of the antibody preparation, wherein a reduced amount of signal measured in the presence of the antibody preparation indicates that the patient has developed an antibody response to the viral envelope protein capable of blocking infection.